

**DETAILED ACTION**  
**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Smith-Hill on 11/03/2009.

The application has been amended as follows:

In the specification, page 12, beneath the title "DESCRIPTION OF THE DRAWINGS," replace the phrase "The invention is described further by means of a flow chart 1, which" with the phrase --Figure 1 is a flow chart which"

In claim 29, line 8, insert --and which does not remove zinc from the raw solution--  
- after the phrase "polymeric amine"

In claim 29, line 9, replace the phrase "the solution" with --the raw solution--

In claim 30, line 4, insert a comma after the phrase "30 g Zn/I"

In claim 41, lines 3-4, replace the phrase "the solution" with --the raw solution--

In claim 42, line 2, replace the phrase "the solution" with --the raw solution--

In claim 43, line 3, replace the phrase "the solution" with --the raw solution--

In claim 44, line 2, replace the phrase "of solution" with --of the raw solution--

In claim 45, line 3, replace the phrase ", or raw solution," with --known as raw solution that is going--

In claim 45, line 6, replace the phrase "the solution" with --the raw solution--

In claim 45, line 8, replace the phrase "the cooled solution" with --the raw solution which has been cooled--

In claim 45, line 10, replace the phrase "the solution" with --the raw solution--

In claim 45, line 12, replace the phrase "the solution" with --the raw solution--

In claim 45, line 13, replace the phrase "the solution" with --the raw solution--

In claim 45, line 16, insert --and which does not remove zinc from the raw solution-- after the phrase "functional group"

In claim 45, line 21, replace the phrase "the solution" with --the raw solution--

In claim 46, line 2, replace the phrase "the solution" with --the raw solution--

In claim 47, line 3, replace the phrase "the solution" with --the raw solution--

In claim 49, line 2, replace the phrase "the solution" with --the raw solution--

***Allowable Subject Matter***

2. Claims 29-54 are allowed.
3. The following is an examiner's statement of reasons for allowance: independent claims 29 and 45 (and by extension dependent claims 30-44 and 46-54) are directed to a process for the removal of copper from a concentrated chloride-containing zinc sulfate solution (known as raw solution) using a chelating alkyl-silylated silica-based ion exchanger of which a functional group is a polymeric amine and which does not remove zinc from the raw solution. US 4,355,009 to Stewart (cited in prior office action) teaches the removal of copper from a concentrated chloride containing zinc sulfate solution using zinc cementation, and the article titled "Selective extraction of copper from acidic

zinc sulfate leach solution using LIX 622" to Owusu (cited in prior office action) teaches that ion exchange in general is a known alternative to zinc cementation for the removal of copper from a zinc sulfate solution. Furthermore, US 5,190,660 to Lindoy (cited in prior office action) teaches a chelating alkyl-silylated silica-based ion exchanger of which a functional group is polymeric amine, and which has a higher selectivity for copper than for zinc. However, the alkyl-silylated silica-based ion exchanger of Lindoy is shown to have a high selectivity for zinc, and so can not meet the new limitation set forth in the examiner's amendment that the ion exchanger does not remove zinc from the raw solution. Nowhere in the prior art is it taught or suggested to use a chelating alkyl-silylated silica based ion exchanger of which a functional group is a polymeric amine and which does not remove zinc from the raw solution to remove copper from a concentrated chloride-containing zinc sulfate solution.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Walck whose telephone number is (571)270-5905. The examiner can normally be reached on Monday-Friday 9 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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